What is claimed:

1. A non-oriented optical character recognition apparatus for use in locating and reading markings on a silicon wafer moving along a path of travel, the apparatus comprising:

a camera positioned along the path of travel for taking a plurality of sequential line images of the silicon wafer on the path of travel to produce a first wafer image;

an illumination device positioned along the path of travel for projecting at least two different types of illumination along the path of travel intersected by the wafer in the area that the line images are taken, the illumination device is adapted to change the type of illumination in a synchronous manner with the taking of the plurality of line images; and

a processor in electronic communication with the camera for separating the line images from the first wafer image into at least two separate wafer images of different illumination, identifying the wafer marking on at least one of the at least two wafer images of different illumination, and reading the wafer mark.

2. The optical character recognition apparatus of claim 1 wherein the camera is positioned above and at a first angle from the vertical with respect to the first path of travel.

3. The optical character recognition device of claim 2 wherein the camera is a charge coupled device camera.

4. The optical character recognition apparatus of claim 2 wherein the camera further comprises at least two individual cameras positioned adjacent one another and transverse to the path of travel.

5. The optical character recognition apparatus of claim 1 wherein the at least two different types of illumination include a bright field illumination, a dark field illumination, an incandescent illumination and LED illumination.

6. The optical character recognition apparatus of claim 1 wherein the illumination device is positioned above and at a second angle from the vertical with respect to the first path of travel.

7. The optical character recognition apparatus of claim 6 wherein the second angle of the illumination device is substantially equal to a first angle position of the camera from the vertical and substantially symmetric about the vertical.

8. The optical character recognition apparatus of claim 1 wherein the processor includes a first computer software component that receives the line images from the camera.

9. The optical character recognition apparatus of claim 1 wherein the processor further comprises a second, third and fourth computer software component in electronic communication with the camera, illumination device and line path for monitoring the illumination device, movement of the path of travel and the rate of the path of travel respectively.

10. The optical character recognition apparatus of claim 9 wherein the second, third and fourth computer software components control the illumination device, movement of the line path of travel and the rate of the path of travel respectively.

11. The optical character recognition apparatus of claim 1 wherein the processor further comprises a fifth computer software component for locating an identifiable area wherein the wafer markings are located.

12. The optical character recognition apparatus of claim 11 wherein the fifth software component locates an edge of the wafer, an edge notch of the wafer, the center of the wafer, and the area containing the wafer markings.

13. The optical character recognition apparatus of claim 1 wherein the processor further comprises a sixth software component for reading the wafer mark.

14. A non-oriented optical character recognition apparatus for use in locating and reading markings on a silicon wafer moving along a path of travel, the apparatus comprising:

a camera positioned along the path of travel at a first angle from vertical with respect to the wafer on the path of travel, the camera adapted to take a plurality of sequential line images of the silicon wafer on the path of travel to produce a first wafer image;

a multiple illumination device positioned along the path of travel at a second angle, the illumination device projects a plurality of different types of illumination that sequentially change in a synchronous manner with the taking of each of the sequential line images; and

a processor in electronic communication with the camera and the illumination device, the processor including six software components wherein the first software receives the line images, the second, third, and fourth software components function to monitor the camera, the illumination device, and the path of travel rate respectively, the fifth software component functions to separate the first wafer image into a plurality of wafer images of different illumination type, and to locate an edge, notch, center and mark area of the wafer, and the sixth software component functions to read the wafer mark.

15. A method of non-oriented optical character recognition for use in locating and reading markings on a silicon wafer traveling along a first path of travel, the method comprising:

generating a single wafer image through sequentially taking a plurality of line images of the wafer and sequentially projecting alternating types of illumination in the area of the line image producing a single wafer image of sequential line images of alternating types of illumination;

locating an area on the wafer containing the wafer markings; and

reading the wafer markings to identify the wafer.

16. The method of claim 15 wherein the step of locating an area on the wafer containing the wafer markings further comprising the steps of separating the single wafer image into individual wafer images having the same illumination and examining at least one of the separated wafer images to locate an edge, a notch on the edge, and the approximate center of the wafer.

17. A method of non-oriented optical character recognition for use in locating and reading markings on a silicon wafer traveling along a first path of travel, the method comprising:

generating a single wafer image of interlaced line images of alternating types of illumination;

separating the interlaced single wafer image into separate wafer images of the same illumination type;

locating an area containing the wafer markings; and

reading the wafer markings to identify the wafer.

18. The method of claim 17 wherein the step of generating the interlaced single wafer image further comprises the step of sequentially taking a plurality of line images of the wafer using a camera positioned in visual communication with the wafer along the path of travel.

19. The method of claim 18 wherein the step of generating a single wafer image further comprises the step of projecting at least two sequentially alternating types of illumination in synchronicity with the taking of each sequential

line image using a multiple illumination device in visual communication with the line image taken of the wafer.

20. The method of claim 17 wherein the step of locating an area containing the wafer markings further comprising examining at least one of the separated wafer images, selecting at least one of the separated images, locating a notch on the edge of at least one of the selected wafers, and locating the approximate center of the selected images.

21. The method of claim 17 further comprising the step of conducting a geometric transform of the area containing the wafer markings prior to reading the wafer markings to improve visibility of the markings.

22. The method of claim 17 further comprising examining each of the separated images and conducting a geometric transform on the area containing the wafer markings on each of the separated wafer images having different illumination and individually examining the transformed areas containing the wafer markings to determine if the wafer markings can be read on any one of the separated, transformed areas containing the wafer markings.

23. The method of claim 22 further comprising the step of combining at least two of the separated, differently illuminated and transformed areas containing the wafer markings to determine if the wafer markings can be read in the combined areas housing the markings.